BUREAU OF RECLAMATION
CATEGORICAL EXCLUSION CHECKLIST

Mid-Pacific Region
Lahontan Basin Area Office

Project Name: Boca Safety of Dams (SOD) Geologic and Seismotectonic Field Investigations

CEC Number: LO – 2010-1020

Cost Authority: A50-1547-0002-002-41-0-8

Date: May 22, 2012

FILE CODE ENV-6.00
PROJECT 247
CONTROL NO. 12037166
FOLDER ID: 1210086

EXCLUSION CATEGORY

516 DM 14.5 B.3 – Data collection studies that involve test excavations for cultural resources investigations or test pitting, drilling, or seismic investigations for geologic exploration purposes where the impacts will be localized.

NATURE OF ACTION

LBAO is proposing to authorize structural, geologic and seismotectonic field investigations on Reclamation land on the dam crest and downstream of Boca Dam.

The purpose of this exploration is to further analyze conditions at the dam in order to develop designs that will best mitigate seismic issues that have been previously identified. These investigations and any subsequent modification are being carried out under Reclamation's Safety of Dams program. The proposed investigations would allow data to be collected on subsurface soil properties, including soil samples for laboratory testing, and data will be collected on the condition of the spillway concrete and rebar.

PROJECT DESCRIPTION

The planned investigations include:

- 1, vertical drill hole (DH-12-1) on the dam crest near the spillway bridge
- 6, horizontal concrete core holes (CH-12-1 through CH-12-6) in the vertical spillway walls
- 1, saw-cut sample of the spillway wall rebar
- 6, vertical drill holes (DH-12-2 through DH-12-7) with permeability testing at the toe of Boca Dam

- 1, geophysical drill/test hole (DH-12-8) to 130 feet (required 110 feet of bedrock penetration, (V_{s30}, shear-wave velocity)
- 2, test pits (TP-12-1 and TP-12-2) at the toe of Boca Dam

DAM CREST – Geotechnical Investigation

1) One drill hole, DH-12-1, will be advanced using a combination of (Figure 3):

- Flight augers and dry coring system (FADC)
- Standard Penetration Tests (SPTs)
- Undisturbed sampling using Lexan tube

The purpose is to identify and sample the embankment/overburden outwash soils and determine the depth to bedrock from the crest of the Boca Dam to better characterize the subsurface conditions.

The drill hole will be advanced from the crest roadway surface through embankment/overburden soils to refusal on rock at an estimated depth of 75 feet using the FADC method of drilling alternating with SPTs and undisturbed sampling using Lexan tubes. Drilling with flight augers requires no water or drilling fluid. The drill hole will be collared on the dam crest roadway.

It is anticipated, the dam crest road will be open to the public while drilling is in progress. One lane will need to be closed to the public for approximately one week, 24 hours/day during drilling operations. Traffic barriers will be placed ahead of and behind the area of drilling operations and robotic traffic signals will be operational to control traffic and ensure safety while crossing the dam crest.

To minimize disturbance to the public, traffic control over the dam crest is anticipated to be scheduled either before the Memorial Day Holiday or after Labor Day and during weekdays only.

SPILLWAY – Structural Investigation

2) Six concrete core holes, CH-12-1 through CH-12-6, will be advanced using (Figure 3):

- Core drilling

The purpose is to evaluate the characteristics of the concrete for construction quality control and determine if the structural integrity will meet new seismic loading standards.

The core holes will be 6-inch diameter by 18-inch-deep and will be drilled horizontally through the vertical side walls of the spillway chute. Three holes will be drilled per spillway wall, under the bridge area. Core drilling will occur when the spillway gates are closed and not operational. All flow will be diverted through the outlet works therefore, the spillway will not be in use and

will be dry. The existing capacity of the spillway will not be altered.

During normal spillway operations, the average tailwater surface elevation is El. 5508'. All planned drilling will occur above elevation El. 5570', over 60 feet above normal tailwater elevation.

Drilling fluid will be clear water obtained from the reservoir. To the maximum extent possible, drill fluid will be re-circulated during drilling to minimize the quantity of water required. Core drilling requires approximately 10 – 15 gallons of water per core.

Used drilling water (clear water with mostly sand-size cuttings that are native to the site) will be captured using a wet-dry vacuum and pumped directly into 55 gallon drums which will be hoisted out of the spillway and disposed of on a flat, vegetated surface at least 200' away from the Little Truckee River and Boca Reservoir. No drilling fluid will be released within the spillway. As a precautionary measure, turbidity barriers such as silt socks, will be deployed in the spillway stilling basin which will reduce the potential for sand size particles entering the Little Truckee River.

Access to the spillway drilling sites will be either via the dam crest road or the existing dirt road that leads from Stampede Dam Road to the spillway chute (Figures 1 and 3).

3) One, sample of rebar, REBAR-12-1, is required for testing using (Figure 3):

- Rotary Saw Cutting

The purpose is to evaluate the characteristics of the concrete for construction quality control, evaluate tensile strength, and determine if the structural integrity will meet new seismic loading standards.

One, two-foot long sample of the original rebar, era 1930's, will be tested. The sample will be obtained using rotary saw-cutting equipment that requires water for lubrication, cooling, and removal of cuttings. Clear water will be obtained from the reservoir.

The clear water with mostly sand-size cuttings will be captured using a wet-dry vacuum and pumped directly into 55 gallon drums which will be hoisted out of the spillway and disposed of on a flat, vegetated surface at least 200' away from the Little Truckee River and Boca Reservoir. No drilling fluid will be released within the spillway. As a precautionary measure, turbidity barriers such as silt socks, will be deployed in the spillway stilling basin which will reduce the potential for sand size particles entering the Little Truckee River.

<u>DOWNSTREAM TOE – Geotechnical Investigation</u>

1) Six drill holes, DH-12-2 through DH-12-7, will be advanced using a combination of (Figure 2):

- Flight augers and a dry coring system (FADC)
- Standard Penetration Tests (SPTs)
- Undisturbed sampling using Lexan tube

The purpose is to sample materials along the toe of Boca Dam and to test the hydraulic properties of the alluvial (Qal) materials.

Each drill hole will be advanced from the ground surface to refusal on rock at an estimated depth of 20 to 40 feet using the FADC method of drilling alternating with SPTs and undisturbed sampling using Lexan tubes. Six Piezometers will be installed around the perimeter of proposed key trench berm and pneumatic slug testing will be conducted to support the design of a dewatering system. Drilling with flight augers requires no water or drilling fluid.

Drilling will be accomplished with a street-legal, truck-mounted CME 75 drill rig which is about the size of a small semi-truck and trailer. Drilling noise is in the 70 dB range a short distance away from the drill rig.

Drill cuttings (excavated soil) will be disposed of by broadcast spreading on the surrounding ground surface at least 100' away from any water body. Drill holes will be backfilled with a bentonite/cement grout according to standard Reclamation and industry practice for drill holes in dams and levees.

2) One drill hole, DH-12-8, will be advanced using a combination of (Figure 2):

- Flight augers and a dry coring system (FADC)
- Diamond Rotary, Rockbit or Downhole Hammer

The purpose is to estimate the average shear-wave velocity to determine the seismic coefficients for earthquake-resistant design.

The drill hole will be advanced from the ground surface an estimated depth of 130 feet (required 110 feet of bedrock penetration) using the FADC method in the overburden soils and Diamond Rotary, Rockbit or Downhole Hammer methods in the bedrock.

If clear drilling fluid is used to advance the drill hole into bedrock, the drilling fluid will be obtained downstream of the river outlet works or from the spillway stilling basin. Drilling fluid (clear water with rock cuttings) will be circulated and will flow through a settling tank and filter socks prior to being discharged onto the ground surface, at least 200' away from any body of water, where it will be allowed to evaporate and/or infiltrate into the ground. Drill cuttings (excavated soil) will be disposed of by broadcast spreading on the surrounding ground surface at least 200' away from any body of water. Drill holes will be backfilled with a bentonite/cement grout according to standard Reclamation and industry practice for drill holes in dams and levees.

Drilling will be accomplished with a street-legal, truck-mounted CME 75 drill rig which is about

the size of a small semi-truck and trailer. Drilling noise is in the 70 dB range a short distance away from the drill rig.

3) Excavate Test Pits (TP-12-1 and TP-12-2) using a backhoe (Figure 2):

Two backhoe test pits will be excavated in the area immediately downstream of the dam (Figure 1) to better characterize the embankment fill and underlying alluvial materials. The test pits will provide instantaneous visual hydraulic properties of the embankment fill and Qal materials, and also allow for collection of bulk samples for Atterberg limits and gradation testing for filter and dewatering design purposes.

Test pits would be excavated with a rented CAT 235 or equivalent tracked excavator. Each test pit would be approximately 30 to 40 feet long by 4 feet wide by 10 to 15 feet deep or until groundwater is encountered. As currently planned, personnel will not enter the test pits. If it is determined that testing within the test pits is necessary, an approved trench box would be placed in a test pit prior to entry by personnel. Pump-out/recharge permeability tests will be performed in each test pit. Water will be discharged onto the ground surface and least 200' away from the Little Truckee River and allowed to evaporate and/or infiltrate. Material excavated from a test pit (soil and weathered rock) will be used to backfill the test pit. Surface material will be stockpiled and replaced back into each test pit to complete the backfilling. The work area will be "raked" and smoothed with the excavator as a final clean-up. The ground surface will be restored to its previous condition and elevation.

Access to the downstream location drilling locations and test pits will be via the existing Operations and Maintenance dirt road.

GENERAL CRITERIA FOR DRILLING HOLES

Drill hole sites will be located on or close to existing, unpaved roads that were established as access for previous drilling. Construction of new access roads is not required. No clearing, grading or placement of fill to construct drill pads is required.

Water pumped from the Little Truckee River will be used for drilling and for mixing backfill grout. Water, drilling fluid including cuttings, and grout will not be discharged into the river during drilling and backfill grouting operations. All drill holes will be approximately 8.5 inches in diameter. Drill holes will either be 1) fully backfilled with Reclamation's standard cement grout with 5% bentonite mixture, or 2) completed as observation wells. Observation wells will be capped by a flush-mount utility box.

Drilling is scheduled for the driest time of the year when the natural ground surface should be dry and hard and disturbance by vehicles should be minimal. All drill sites will be restored with hand tools (shovels and rakes) and left in an undisturbed condition upon the completion of drilling operations. A Reclamation geologist would be onsite at all times.

ENVIRONMENTAL AND PERMITTING

The Little Truckee River will be maintained to flow at approximately 39 cubic feet per second (cfs) or as determined by the Federal Court appointed Watermaster.

It has been determined that the Boca Dam Geologic and Seismotectonic Field Investigations will have *No Effect* to any threatened or endangered species or their designated critical habitats protected under the Federal Endangered Species Act of 1973 therefore, no review or consultation by the USFWS is required.

The proposed geotechnical investigations will have *No Effect* to the American Bald Eagle. Under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, no review or consultation by the USFSW is required.

This project is exempt from obtaining a Section 404 permit of the Clean Water Act, because geotechnical activities will not be conducted within waters of the United States and material will not be discharged into Navigable waters of the Unites States.

This project is exempt from obtaining a Section 402 National Pollutant Discharge Elimination System (NPDES) permit of the Clean Water Act, because project activities will not result in the disturbance of more than 1 acre of land.

This project is exempt from obtaining a Section 401 permit of the Clean Water Act, because there will be no discharges of pollutants to surface waters.

Best Management Practices (BMPs) and mitigation measures will be deployed to the maximum extent practicable to minimize any potential soil erosion/or surface runoff problems.

FIRE SUPPRESSION

The Bureau of Reclamation shall take all of the steps necessary to prevent his/her employees, subcontractors and their employees from setting fires and shall be responsible for preventing the escape of fires set directly or indirectly as a result of operations. If a fire were to occur, the first step would be to call the emergency number 911.

The Forest Service will provide a recording for Reclamation to call in daily to check Project Level Activity (PAL) emergency precautions for operations. To obtain the predicted PAL, Reclamation is to call 530-587-2158 before starting work each day. All work will be incompliance with applicable USFS regulations. "Restricted work hour days" and "no work days" will be observed when in effect. Refer to Section 5 of the 2009 Fire Plan for the Stampede and Boca Reservoirs Geologic Investigations for details regarding PAL requirements.

The Fire Precautionary Period is May 1, 2012 to December 1, 2012.

Reclamation shall equip each operating tractor and any other internal combustion engine with a spark arrester, except for motor vehicles equipped with a maintained muffler. Spark Arresters shall be a model tested and shall be maintained in good operating condition.

Fire tools kept at the site shall be sufficient to equip all employees in the field exploration project. USFS required fire suppression equipment will be provided at each test pit and drill hole site whenever work is in progress. Minimum equipment will include:

- 300 gallon water tank
- Generator and pump
- 100-foot fire hose
- Spray nozzle

For further details and Fire Plan guidelines, the 2009 Fire Plan for the Stampede and Boca Reservoirs Geologic Investigations is incorporated by reference.

TIMELINE

The window for the proposed geotechnical investigation is anticipated to begin May 1, 2012 and extend through December 1, 2012. Actual geotechnical activities are expected to take up to 2 months but the 7 month window allows for flexibility as activities are dependent on weather and the availability of work crews. All work will be during daylight hours (7am to 7pm).

LOCATION

The project site is located at Boca Dam, Nevada County, California. Boca Dam is located in the Sierra Nevada Mountains, approximately 6.5 miles northeast of the town of Truckee, California and 18 miles southwest of Reno, Nevada.

Legal Description: Sections 21 and 28, T18N, R17E M.D.M

Latitude and Longitude:

- Dam Crest/Spillway: 39° 23' 25.4" N, 120° 05' 39.9" W
- Downstream Area (Figure 2): 39 ° 23' 20" N, 120 ° 05' 44" W

Evaluation of Criteria for Categorical Exclusion		
1. This action would have a significant effect on the quality of the human environment. (40 CFR 1502.3).		No ✓ Uncertain__ Yes__
2. This action would have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2) (E) and 43 CFR 46.215 (c)].		No ✓ Uncertain__ Yes__
3. This action will have significant impacts on public health or safety (43 CFR 46.215(a)).		No ✓ Uncertain__ Yes
4. This action would have significant impacts such natural resources and unique geographical characteristics as historic or cultural resources; parks, recreation and refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principle drinking water aquifers; prime farmlands; wetlands (E.O.11990); floodplains (E.O. 11988); national monuments; migratory birds; and other ecologically significant or critical areas (43 CFR 46.215 (b)).		No ✓ Uncertain__ Yes
5. The action would have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risk (43 CFR 46.215 (d)).		No ✓ Uncertain__ Yes__
6. This action would establish a precedent for future actions or represent a decision in principle about future actions with potentially significant environmental effects (43 CFR 46.215 (e)).		No ✓ Uncertain__ Yes__
7. This action would have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects (43 CFR 46.215 (f)).		No ✓ Uncertain__ Yes__
8. This action would have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau (in coordination with a Reclamation cultural resources professional, RM LND 02-01 D(1)(a)) (43 CFR 46.215 (g)).		No ✓ Uncertain__ Yes__
9. This action would have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species (43 CFR 46.215 (h)).		No ✓ Uncertain__ Yes__

Evaluation of Criteria for Categorical Exclusion		
10. This action would violate a Federal, State, local, or tribal law or requirement imposed for protection of the environment (43 CFR 46.215 (i)).		No ✓ Uncertain ___ Yes ___
11. This action would have a disproportionately high and adverse effect on low income or minority populations (E.O. 12898) (43 CFR 46.215 (j)).		No ✓ Uncertain ___ Yes ___
12. This action would limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (E.O. 13007 and 43 CFR 46.215 (k)).		No ✓ Uncertain ___ Yes ___
13. This action would affect Indian Trust Assets. (To be completed by Reclamation official responsible for ITAs) (S.O. 3175; Policy Memorandum dated 12/15/93).		No ✓ Uncertain ___ Yes ___
14. This action would contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act, E.O. 13112, and 43 CFR 46.215 (l)).		No ✓ Uncertain ___ Yes ___

NEPA Action Recommended: Categorical Exclusion ✓ EA ___ EIS ___

Environmental commitments, explanation, and/or remarks:
See the attached correspondence from the Mid-Pacific Region Cultural Resources Division regarding concurrence with Item 8 (cultural resources), and from Patricia Rivera regarding Item 13 (Indian Trust Assets).

Prepared by: _____ 5/31/12
Joel Sturm
Geologist, MP-230
Date

Recommended: _____ 5-22-12
Julia Long
Natural Resource Specialist
Date

Concurrence: _____ 6/5/2012
Robert Edwards
Resource Division Manager
Date

Approved: _____ 6/7/12
Terri Edwards
Deputy Area Manager
Date

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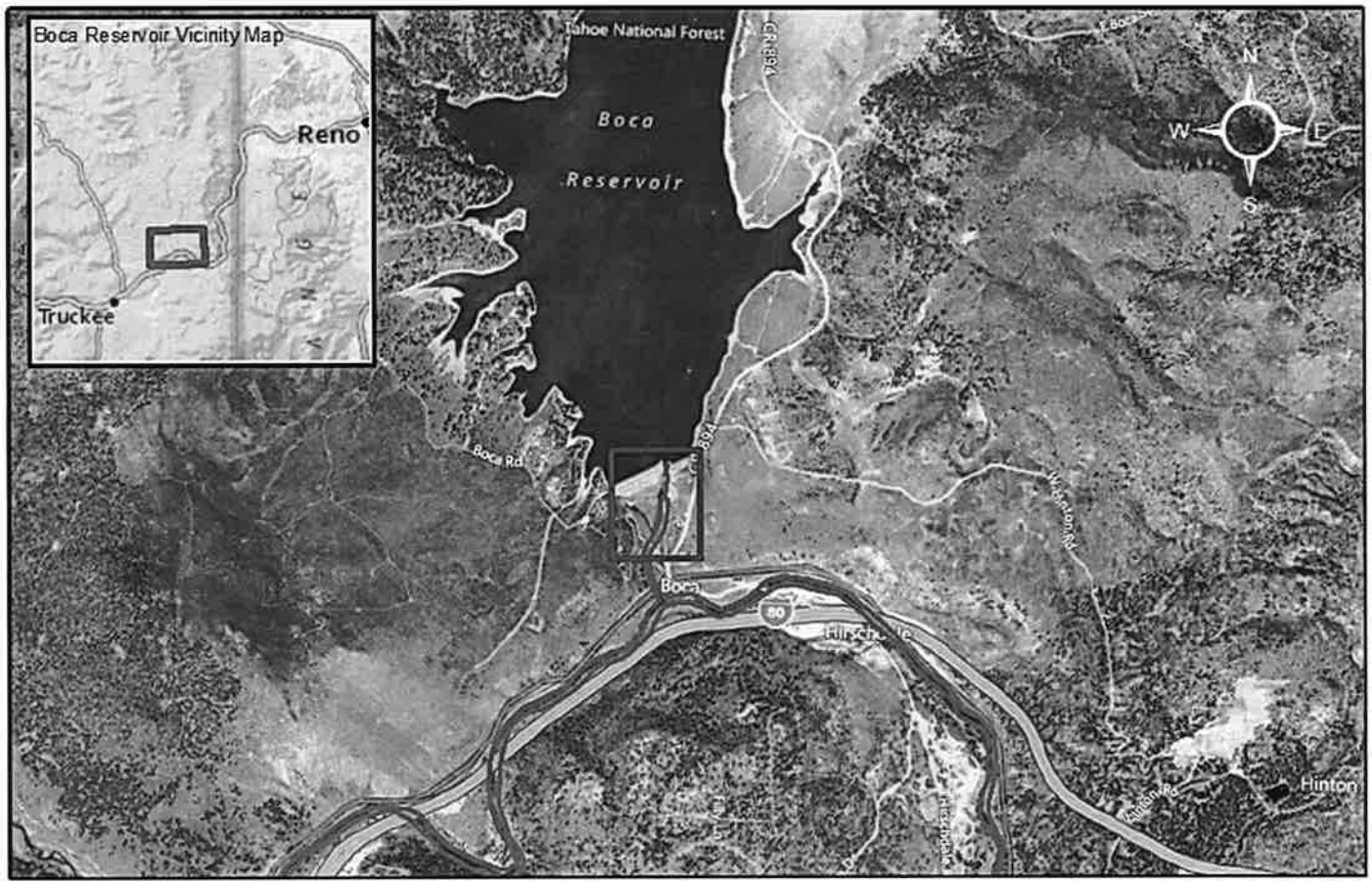

RECLAMATION
Managing Water in the West

Lahontan Basin Area Office
705 N. Plaza Street, Carson City, NV 89701

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Miles

Boca Reservoir Project Area
SOD Geologic and Seismotectonic Field Investigations

LO-2010-1020

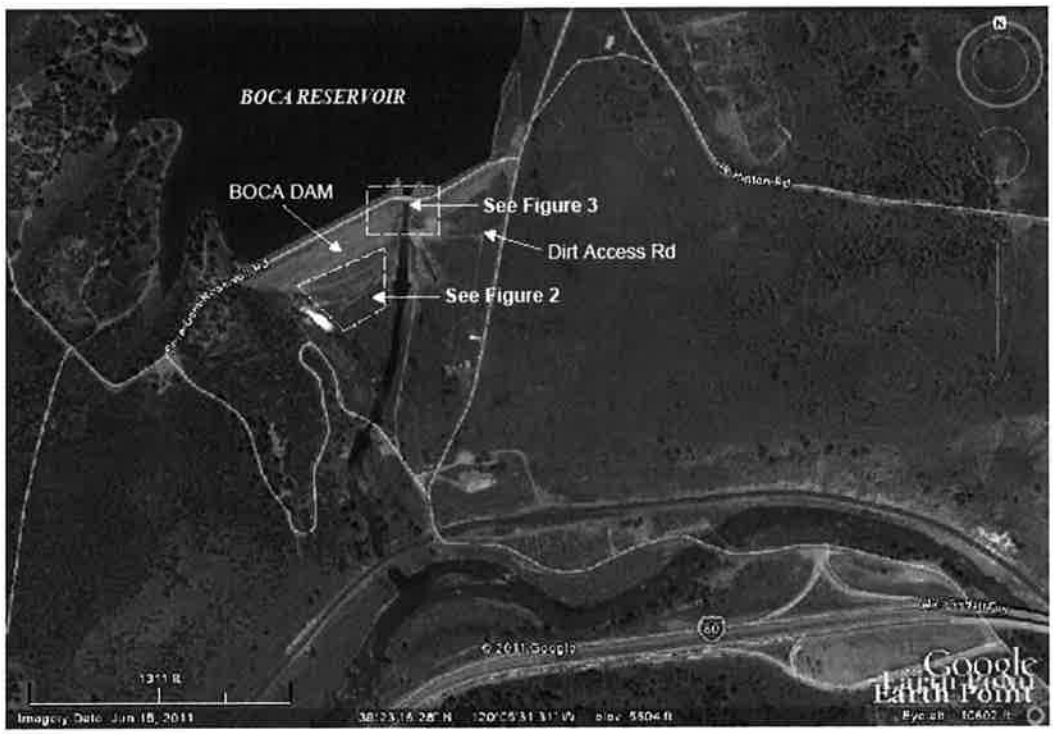

FIGURE 1. GENERAL LOCATION MAP – AREAS OF PROPOSED DRILL HOLES AND TEST PITS BOCA DAM SAFETY OF DAMS INVESTIGATIONS

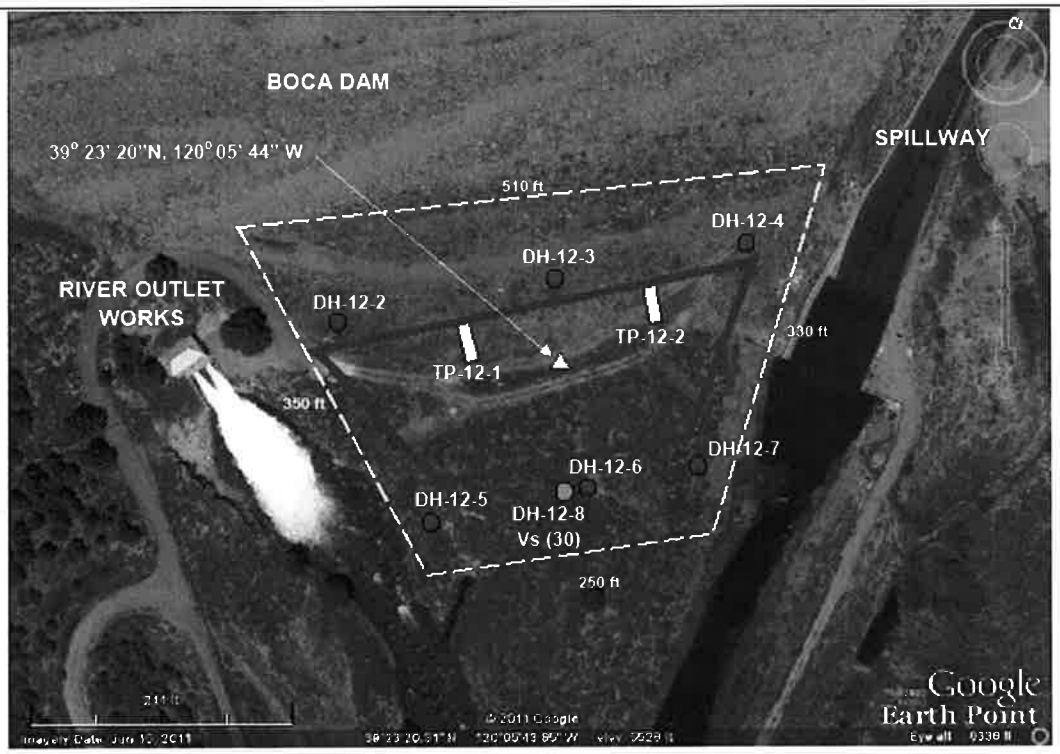

FIGURE 2. LOCATIONS OF PROPOSED DRILL HOLES AND TEST PITS BOCA DAM SAFETY OF DAMS INVESTIGATIONS

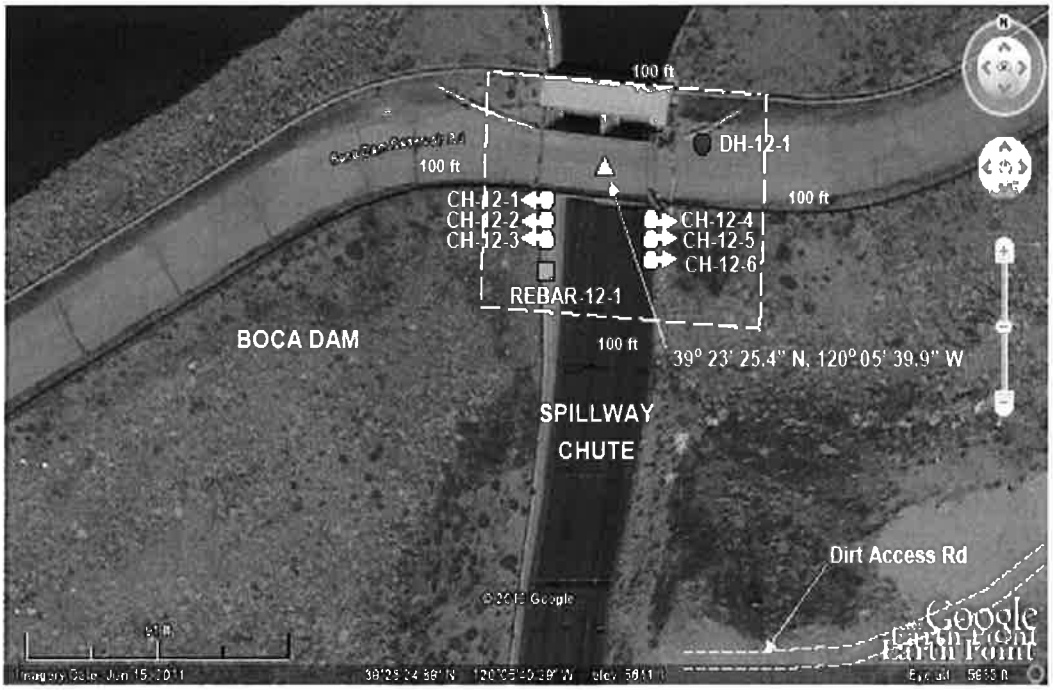

FIGURE 3. LOCATIONS OF PROPOSED DRILL HOLE, CONCRETE CORE HOLES AND REBAR SAMPLE BOCA DAM SAFETY OF DAMS INVESTIGATIONS

From: Soule, William E
Sent: Tuesday, May 22, 2012 1:33 PM
To: McElhinney, Douglas S; Long, Julia A
Cc: Meier, Andrea J; Sturm, Joel F; BOR MPR Cultural Resources Section
Subject: RE: Boca Geotech review response LO-2010-1020

Doug and Julia:

Re: 11-MPRO-265.1: Section 106 Compliance for Boca Dam Safety of Dams (SOD) Geotechnical Investigations.

Reclamation's proposed Boca Dam geotechnical study, a component of the Boca Dam SOD investigations, was determined to be the type of undertaking that had the potential to cause effects to historic properties pursuant to 36 CFR Part 800.3. These investigations are designed to evaluate the downstream foundation of the earthfill Boca Dam and the spillway concrete and rebar. Proposed actions include a series of bore holes and test pits, all of which are located on the existing dam. Boca Dam is owned by Reclamation and operated by the Washoe County Water Conservation District. This proposed action on Federal lands constitutes an undertaking as defined by Section 301(7) of the National Historic Preservation Act (NHPA) at 16 U.S.C. 470. Accordingly, Reclamation initiated consultation with the California State Historic Preservation Officer (SHPO) as outlined in 36 CFR § 800 of the NHPA.

In an effort to identify historic properties, Reclamation reviewed its archaeological site index and project data regarding Boca Dam and completed record searches with the North Central Information Center on March 2, 2012, and with the Tahoe National Forest on March 9, 2012. Boca Dam was the only cultural resource identified in the area of potential effects (APE). Boca Dam (primary No. P-29-003283, HRI No. 5734-0002-0000) is an earthfill dam that was constructed across the Little Truckee River by Reclamation between 1937 and 1939 as the main component of the Truckee Storage Project. The National Register of Historic Places (NRHP) database indicates that Boca Dam was listed in 1981 (NRHP #81000712) under criteria A and C. Reclamation believes that Boca Dam was mistakenly included in the 1979 nomination form (enclosed) as a component of the Newlands Reclamation Project, and subsequently listed by the NRHP. However, Boca Dam was authorized and constructed as a component of the Truckee Storage Project. For the present consultation, Reclamation assumes that Boca Dam, even if incorrectly listed, is eligible for the NRHP for the purposes of this undertaking. Based on this analysis, Reclamation determined that this undertaking would have no adverse effect to Boca Dam.

Reclamation identified the Washoe Tribe of Nevada and California, the United Auburn Indian Community of the Auburn Rancheria, the Pyramid Lake Paiute Tribe, and the Greenville Rancheria of Maidu Indians as tribes who might attach religious and cultural significance to historic properties within the APE pursuant to the regulations at 36 CFR § 800.3(f)(2). Reclamation sent letters to these tribes to invite their participation in the Section 106 process and seek their assistance in identifying sites of religious and cultural significance which may be affected by the proposed undertaking pursuant to 36 CFR § 800.4(a)(4). Reclamation also sent a letter to the Maidu Cultural and Development Group, identified as a Native American organization likely to have knowledge or concerns with historic properties in the area, to request their assistance in identifying historic properties which may be affected by the proposed undertaking pursuant to 36 CFR § 800.4(a)(3). No responses have been received to date.

Reclamation initiated consultation with the California SHPO in a letter date April 06, 2012, seeking concurrence with a finding of no adverse effect made pursuant to 36 CFR § 800.5(b). The SHPO received the consultation letter and package on the same day as it was hand delivered to the SHPO office. Pursuant to the regulations at 36 CFR § 800.5(c), the SHPO has 30 days from receipt to review the findings. If the SHPO has not provided a response by the close of the 30-day review period, the agency may proceed with the undertaking (36 CFR § 800.5(c)(1). Because the SHPO has not responded within the allotted time pursuant to the regulations, Reclamation may conclude the Section 106 process with no additional consideration.

This email is intended to convey the completion of the Section 106 process for this undertaking. Base on Reclamation's finding of no adverse effect, I concur with Item 8 in the Evaluation of Criteria for Categorical Exclusion table in CEC # LO-2010-1020. Please retain a copy of this memo with the administration administrative record for this project.

Sincerely,

William E. Soule, M.A., Archaeologist
U.S. Bureau of Reclamation, Mid-Pacific Region

2800 Cottage Way, MP-153
Sacramento, CA 95825
Phone: 916-978-4694
Email: wsoule@usbr.gov

Long, Julia A

From: Rivera, Patricia L
Sent: Tuesday, March 06, 2012 3:11 PM
To: Long, Julia A
Subject: RE: ITA Review, Boca Dam SOD geologic field investigation

Julia,

I reviewed the proposed action to authorize geologic and seismotectonic field investigations on Reclamation land downstream of Boca Dam.

The proposed investigations would allow data to be collected on subsurface soil properties, including soil samples for laboratory testing, and data will be collected on the condition of the spillway concrete and rebar.

The planned investigations include:

- 1, vertical drill hole (DH-12-1) on the dam crest near the spillway bridge
- 6, horizontal concrete core holes (CH-12-1 through CH-12-6) in the vertical spillway walls
- 1, saw-cut sample of the spillway wall rebar
- 6, vertical drill holes (DH-12-2 through DH-12-7) with permeability testing at the toe of Boca Dam
- 1, geophysical drill/test hole (DH-12-8) to 130 feet(required 110 feet of bedrock penetration, (V_{s30}, shear-wave velocity)
- 2, test pits (TP-12-1 and TP-12-2) at the toe of Boca Dam

DAM CREST/SPILLWAY

1) One drill hole, DH-12-1, will be advanced using a combination of (Figure 3):

- Flight augers and dry coring system (FADC)
- Standard Penetration Tests (SPTs)
- Undisturbed sampling using Lexan tube

The drill hole will be advanced from the crest roadway surface through embankment/overburden soils to refusal on rock at an estimated depth of 75 feet using the FADC method of drilling alternating with SPTs and undisturbed sampling using Lexan tubes. Drilling with flight augers requires no water or drilling fluid. The drill hole will be collared on the dam crest roadway.

2) Six concrete core holes, CH-12-1 through CH-12-6, will be advanced using (Figure 3):

- Core drilling

The core holes will be 6-inch diameter by 18-inch-deep and will be drilled horizontally through the vertical side walls of the spillway chute. Three holes will be drilled per spillway wall, under the bridge area. The cores will be located a minimum of 1 foot above the maximum flowline of the spillway.

3) One, sample of rebar, REBAR-12-1, is required for testing using (Figure 3):

- Rotary Saw Cutting

One, two-foot long sample of the original rebar, era 1930's, will be tested. The sample will be obtained using rotary saw-cutting equipment that requires water for lubrication, cooling, and removal of cuttings. Clear water will be obtained from the reservoir.

The proposed action does not have a potential to affect Indian Trust Assets. The nearest ITA is Reno-Sparks colony approximately 19 miles NE of the project location.

Patricia Rivera
Native American Affairs Program Manager
Bureau of Reclamation
Mid-Pacific Region
Sacramento, California 95825
(916) 978-5194

Fire Plan
Bureau of Reclamation
Stampede and Boca Reservoirs
Geologic Investigations

Reviewed by: _____ 10/8/09
Mike Campbell, USFS Acting Fire Management Officer

Reviewed by: Jane Schmidt Oct. 8, 2009
Jane Schmidt, Bureau of Reclamation, Natural Resource Specialist

Approved by: Joanne B. Roubique 10/8/09
Joanne B. Roubique, USFS, Truckee District Ranger

FIRE PLAN
Bureau of Reclamation
Stampede and Boca Reservoirs Geologic Investigations
September 17, 2009

1. SCOPE:

The provisions set forth below outline the responsibility for fire prevention and suppression activities and establish a suppression plan for fires within the Reclamation field exploration areas. The provisions set forth below also specify conditions under which field exploration activities will be curtailed or shut down.

PROJECT: 2009 Stampede and Boca Reservoirs Geologic Investigations

Location: The project is located within Stampede and Boca Reservoirs on the Tahoe National Forest, on the Truckee Ranger District. The Stampede Reservoir site is about 12 miles northeast of Truckee, California and the legal description is Section 30, T. 19 N., R. 17 E., Mount Diablo Base Meridian. The Boca Reservoir site is about 6 miles east of Truckee, California and the legal description is Section 16 and Section 21, T. 18 N., R. 17 E., Mount Diablo Base Meridian.

Project Description: A total of 25 backhoe test pits will be excavated on an evenly spaced grid below the shoreline of Stampede and Boca Reservoirs at low water levels. The Stampede Reservoir site is the old borrow area used during dam construction in 1970. It is located approximately 1 mile southwest of Stampede Dam and east of the Captain Roberts Boat Ramp At Boca Reservoir, the potential borrow site is located approximately 1.5 miles north of Boca Dam, on the east shore of the reservoir.

All test pits will be excavated by a Case 580 rubber-tired backhoe (or equivalent). At Stampede Reservoir, a D-6 bulldozer may be needed if refusal to a backhoe is encountered at a relatively shallow depth (less than 5 to 10 feet). Each pit will be excavated and completely backfilled on the same day. All work will be during daylight hours (7am to 7pm). Pits will not be left open over night. No water will be used during the testing. A Reclamation geologist will be onsite at all times. The work described above may require about 10 days.

Equipment: The following equipment or equivalent equipment will be on site:
1. Backhoe
2. Pickup trucks and SUVs.
3. Pickup truck with slip tank for refueling.

Project Performance Period: The excavation of backhoe pits will begin on September 29, 2009 within the Stampede Reservoir site. This work may take up to five days to complete. Workdays are defined as 0700-1200 hrs and 1230-1900 hrs. Full workdays will consist of up to l2-hour shifts, Saturday work may occur. It is anticipated that work on the backhoe pits within Boca Reservoir will begin on or about October 13, 2009 and last for 5 days.

2. RESPONSIBILITIES:
A. Bureau of Reclamation (Reclamation)

(1) Shall abide by the requirements of this Fire Plan.

(2) Shall take all steps necessary to prevent his/her employees, subcontractors and their employees from setting fires, shall be responsible for preventing the escape of fires set directly or indirectly as a result of operations, and shall extinguish all such fires which may escape.

(3) Reclamation shall certify compliance with specific fire precautionary measures in the fire plan, before beginning operations during Fire Precautionary Period and shall update such certification when operations change.

(4) Shall designate in the fire plan and furnish during operating hours a fire supervisor authorized to act on behalf of Reclamation in fire prevention and suppression matters.

Shall complete the Plan regarding personnel and shall furnish the Forest Service with a copy prior to commencing work at the site. Shall currently advise the Forest Service of any changes in personnel as the changes occur.

B. Forest Service

The Forest Service will provide a recording for Reclamation to call in daily to check Project Level Activity (PAL) emergency precautions for operations.

3. TOOLS AND EQUIPMENT:

A. Reclamation shall comply with the following requirements during the fire precautionary period as defined by the Forest Service unless waived in writing:

The Fire Precautionary Period is _May 1, 2009 to _December 1, 2009 _

Reclamation shall equip each operating tractor and any other internal combustion engine with a spark arrester, except for motor vehicles equipped with a maintained muffler. Spark Arresters shall be a model tested and shall be maintained in good operating condition.

Fire tools kept at the site shall be sufficient to equip all employees in the field exploration project.

Trucks, tractors, pickups and other similar mobile equipment shall be equipped with and carry at all times a size 0 or larger shovel with an overall length of not less than 46 inches and a 2-112 pound axe or larger with an overall length of not less than 28 inches.

Reclamation shall provide a water tank truck or trailer on or in proximity to the work site during Reclamation's Operations hereunder during Fire Precautionary Period unless otherwise agreed.

When Project Activity Level B or higher is in effect, a tank truck or trailer shall be on or immediately adjacent to the work site. See Section 5 for specific requirements.

The tank shall contain at least 300 gallons of water available for fire suppression. A water sprinkling tank truck will meet this requirement if provision is made to insure that the minimum of 300 gallons is available for fire suppression at all times. Ample power and hitch shall be readily available for promptly and safely moving tank over roads serving work site. Tank truck or trailer shall be equipped with following:

(1) Pump, which at sea level, can deliver 23 gallons per minute at 175 pounds per square inch measured at the pump outlet. Pump shall meet or exceed the pressure value in the following table for nearest temperature and elevation:

The pump outlet shall be equipped with 1-1/2 inch fire hose thread. A bypass or pressure relief valve shall be provided for other than centrifugal pumps.

(2) 300 feet of 3/4-inch inside diameter rubber-covered high-pressure hose mounted on live reel attached to pump with no segments longer than approximately 50 feet, when measured to the extreme ends of the couplings. Hose shall have reusable compression wedge type I-inch brass or lightweight couplings (aluminum or plastic). One end of hose shall be equipped with a coupling female section and the other end with a coupling male section. The hose shall, with the nozzle closed, be capable of withstanding 200 PSI pump pressure without leaking, distortions, slipping of couplings, or other failures. .

(3) A shut-off combination nozzle that meets the following minimum performance standards when measured at 100 P.S.I. at the nozzle:

(4) Sufficient fuel to run pump at least 2 hours and necessary service accessories to facilitate efficient operation of the pump.

G.P.M.	Horizontal Range	
Straight Stream	10	38 feet
Fog Spray	6 -20	N/A

Good

B. Any additional fire plan requirements: NONE

4. GENERAL

A. **State Law**. Reclamation shall comply with all applicable laws of the State of California. **In** particular, see California Public Resource Codes.

B. **Permits Required.** Reclamation must coordinate with the Forest Service Truckee Ranger District and aquire any specific permits before engaging in any of the activities listed below.

(1) Blasting and Storage of Explosives and Detonators. (Explosives Permit required by California Health & Safety Code, Section 12101.)

(2) Burning.

(3) Air Pollution. (Issued by local State or County Air Pollution Control Districts, as applicable.)

(4) Camp, Lunch and Warming Fires.

(5) Welding and Cutting.

C. Regulations for Burning. Before setting any fires whatsoever, Reclamation shall notify the Forest Service Truckee Ranger District of his/her intentions. Special care shall be taken to prevent scorching or causing any damage to adjacent structures, trees, and shrubbery.

D. Smoking and Fire Rules. Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter (CPRC 4423.4). Reclamation's supervisory personnel shall require compliance with this rule. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment, or walking or working in grass and woodlands.

E. Storage and Parking Areas. Equipment service areas, parking areas, and gas and oil storage areas shall be cleared of all flammable material for a radius of at least 10 feet. Small mobile or stationary internal combustion engine sites shall be cleared of. flammable material for a slope distance of at least 10 feet from such engine.

F. Welding. Reclamation shall confine welding activity to cleared areas having a minimum radius of ten feet measured from place of welding.

G. Blasting. N/A

H. Oil Filter and Glass Jugs. N/A

I. Reporting Fires. As soon as feasible but no later than 15 minutes after initial discovery, Reclamation shall notify Forest Service of any fires on work site or along roads used by Reclamation.

J. Communications. Reclamation shall furnish a serviceable telephone, radio-telephone or radio system on the work site connecting with a Reclamation office. The communication system shall provide prompt and reliable communications between the Reclamation office and Forest Service via commercial or Forest Service telephone. The communications system shall be operable during Reclamation's operations in Fire Precautionary Period described in Section 3 and during the time fire patrolperson service is required. A radio-equipped fire patrolperson vehicle will satisfy this requirement if in operation during the time required except during PAL levels "D" and "Ev", A CB is not acceptable communication because FCC Regulations prohibit commercial use.

K. Fire Patrol Person. Reclamation shall furnish a fire patrolperson each operating day when Project Activity Level B or higher is in effect. When on duty, the patrolperson shall patrol the operation for prevention and detection of fires, take suppression action where necessary and notify the Forest Service as required by Section 5.
L. Time of Snag Felling. N/A

M. Clearing of Fuels. N/A

5. EMERGENCY MEASURES

The table set forth below establishes work restrictions and fire precautions that Reclamation must observe at each activity level. The restrictions are cumulative at each level.

The Forest Service, in its sole discretion, may change the predicted activity level if the current fire suppression situation, weather and vegetation conditions warrant additional restriction of activities. Reclamation shall obtain the predicted Project Activity Level by calling the following phone number 530-587-2158 before .starting work each day. If practicable, Forest Service will determine the following day's activity level by 6:00 PM local time. If predictions made after 6:00 PM are significantly different than originally estimated, Forest Service will inform Reclamation when changes in restrictions or industrial precautions are indicated.

The following defmitions shall apply to these Project Activity Levels:

Sunset: The time that sunset is reported in the local newspaper for that day.

Except for Project Activity Level days "Ev after *1:00* PM local time" and "E", Forest Service may issue substitute precautions(s) of the requirements below. Such agreements shall prescribe measures to be taken by Reclamation to reduce risk of ignition and/or spread of fire.

Forest Service may change the Project Activity Levels to other values upon revision of the National Fire Danger Rating System and may change the specific Project Activity Levels and/or requirements when such changes are necessary for the protection of the' National Forest. When sent to Reclamation, the revised Project Activity Levels will supersede the levels below.

PROJECT ACTIVITY LEVEL –EMERGENCY PRECAUTIONS

Table version 6/13/2006

PROJECT ACTIVITY LEVEL

Level	***Project Activity Requirements***
A	Minimum required by Section 3 1. PAL levels are cumulative, Ev level would include all preceding PAL requirements.

B	1. A fire patrolperson is required for mechanical operations from cessation of operations until 2 hours after operations cease or sunset, which ever occurs first. 2. Tank truck or trailer shall be on or adjacent to each active landing. 3. When hot saw technology is being used, the tank truck or trailer (B2 above) may serve dual purpose as active landing tank truck provided it shall be kept readily available for use as follows: a. Within one quarter mile of the operating hot saw technology; and b. Within 10 minutes of the active landing; and c. Effective communications exist between hot saw technology and active landing. Otherwise, there shall be a tank truck or trailer at both the active landing and within one quarter mile of the operating hot saw technology. 4. (Additional restrictions specified by the forest.)
C	1. The following operations are prohibited from 1:00 PM until 8:00 PM local time: a. Blasting 2. Operations using hot saw technology are prohibited between 1:00 PM and sunset local time. Hot saw technology operations may continue if Contractor provides a portable fire suppression system capable of extinguishing a 20-foot by 20-foot wild land fire within five (5) minutes of discovery. The following equipment will meet the requirements above: a. Compressed Air Foam System with minimum requirements of 20 gallons stored energy, 100 feet of 1 inch hose and adjustable 1 inch nozzle, minimum discharge range of 60 feet and 1 spare air cylinder; or b. All terrain tank truck or equivalent capable of traveling throughout the cutting unit, containing not less than 300 gallons of water and complies with all tank truck requirements of Section 3. All terrain tank truck or equivalent may serve dual purpose as active landing tank truck provided: 1) Tank truck or equivalent shall be kept readily available to extinguish a fire within 5 minutes of discovery of the operating hot saw technology, 2) Tank truck or equivalent shall be no further than 10 minutes travel time to the active landing, 3) A 4-A:80-B:C extinguisher is maintained at the landing fire tool box and, 4) Effective communications exist between the hot saw technology, active landing and all terrain tank truck or equivalent. Otherwise there shall be a tank truck at the active landing and an all terrain tank truck or equivalent with the hot saw technology. 3. (Additional restrictions specified by the forest.)
D	1. The following restrictions apply: a. No blasting after 10:00 AM b. Welding or cutting of metal only by special permit c. No Burning without a permit 2. The following activities may not operate after 1:00 PM local time unless fire patrolperson(s) walks all areas operated that day once per hour until sunset local time and has the capability of notifying the designated Forest Service Dispatch Center within fifteen (15) minutes of discovery

	of a fire: a. Track-laying equipment b. Chipping outside of landings and roadbeds c. Equipment using Hot Saw Technology d. Chainsaw operations outside of landings and roadbeds e. Tree felling operations f. Ripping roads and landings g. Mastication h. Cable-yarding employing motorized carriages. 3. (Additional restrictions specified by the forest.)
Ev	1. The following operations are prohibited: a. Blasting b. Welding or cutting metal c. Burning 2. Following activities may operate when fire patrolperson walks from 9:00 AM until local sunset all areas once per hour that were mechanically operated that day. A. Activities that may operate all day: 1. Hauling and loading of logs decked at approved landings. 2. Hauling and loading of chips piled at approved landings. 3. Equipment servicing at approved sites. 4. Roads: Dust abatement or rock aggregate installation (does not include pit or quarry development) 5. Chainsaw or stroke delimber operation associated with loading at approved landing sites. B. All other Operations are permitted until 1:00 PM local time subject to the following: 1. When hot saw technology is being used a tractor or other equipment with blade capable of constructing fire line, shall be on standby and immediately available. Tractor will have effective communications with hot saw technology and be within one quarter mile of hot saw technology to quickly reach and effectively attack a fire start. C. (Additional restrictions specified by the forest.)
E	The following activities may operate subject to B1. and B2. 1. Hauling and loading of logs decked at approved landings. 2. Hauling and loading of chips piled at approved landings. 3. Equipment at approved sites may be serviced. 4. Roads: Dust abatement or rock aggregate installation (does not include pit development). 5. Chainsaw operation associated with loading at approved landings.

6. REPORTING ALL WILD FIRES

A. Reclamation's employees shall report all fires as soon as possible but no later than 15 minutes after initial discovery to any of the following Forest Service facilities and/or personnel listed below, but not necessarily in the order shown:

Name	Office Address and/or telephone	Home address and/or telephone	
Dispatch Center	Dispatcher	530-478-6111	Grass Valley, CA
Nearest FS Station	Truckee Ranger District	530-587-3558	Truckee, CA
District Ranger	Joanne Roubique	530-587-3558	Truckee, CA

When reporting a fire, provide the following information;

Your Name;
Call back telephone number;
Project name;
Location;
Legal description (Township, Range, Section); and Descriptive location (Reference point);
Fire Information;
Acres;
Rate of Spread; and
Wind Conditions.

B. Reclamation's Plan Regarding Personnel. Through this Fire Plan Reclamation is furnishing the Forest Service the following information relating to key personnel during the geologic investigations work:

Title	Name	Address and/or telephone
Fire Patrolperson	Joel Sturm - Geologist	916-978-5305 916-243-9892 (cell)
Additional Project Contact	Locke Hahne - Civil Engineer	Office: 775-884-8348
	Jane Schmidt - Natural Res. Spec.	Office: 775-884-8372